

Box 5: Coral colonization of oil and gas platforms

Records of natural occurrences of *L. pertusa* from the North Sea are rare, but historical observations suggest *L. pertusa* did occur previously. It is likely that centuries of fisheries exploitation in the seas have led to the destruction of practically all natural populations. Upstream of the North Sea, Atlantic populations of *L. pertusa* are concentrated along parts of Rockall Bank, and then sporadically on the slopes, and seamounts and ridges of the Rockall Trough. Downstream, populations occur in the Skagerrak and off western Norway although many of these have also been degraded significantly by fisheries. However, *L. pertusa* has been observed to have colonized many oil and gas structures in the northern sector of the North Sea, including some with dense stands of corals (Box 4, Fig 1). The large-scale distribution of oil and gas infrastructure could now be playing a significant role in the structure and function of regional CWC population dynamics (Henry et al., 2018). The latest particle trajectory models from both the *Thistle Alpha* and *Murchison* platforms (the latter now decommissioned with the last 44 m of jacket footings left *in situ*) has demonstrated the potential for these structures to provide new recruits for naturally occurring *L. pertusa* populations along the Norwegian margin. The potential for platform corals to supply and restore degraded areas has also been considered in other mature basins such as the Gulf of Mexico (Sammarco et al., 2012). Although requiring verification using population genetic data and long-term *in situ* observations on recruitment success, these populations could strengthen regional population connectivity and resilience (Hennige et al., 2015; Henry et al., 2018).



Box 4 Figure 1 The protected stony coral *L.pertusa* and other epifauna occurring with dense aggregations of the fish *Pollachius virens* around North Sea oil and gas installations. Photo credits: photograph courtesy of Lundin Britain Ltd. Reproduced from “Cold-Water Corals: The Biology and Geology of Deep-Sea Coral Habitats”, by Roberts, A. Wheeler, A. Freiwald, and S. Cairns, Cambridge University Press, 2009.